Environmental Assessment

For

Tree Clearing along Roadways at Clear Air Force Station

Prepared in accordance with Air Force Instruction 32-7061and
in compliance with the National Environmental Policy Act of 1969

By

ARCTEC/EHS
Clear AFS, Alaska

October 2005

Report Documentation Page

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14. ABSTRACT

The action being evaluated in this environmental assessment consists of clearing trees along approximately 5 miles of road (7500 feet) at Clear Air Force Station. Trees will be cleared along Lake Road and the North-South Road using a drum type flail mower. The mower is mounted on an excavator and chips the trees as it clears, keeping the debris in the work area. The mower can mulch trees up to 12 inches in diameter and 40 feet tall. This environmental assessment evaluates the environmental impacts of the proposed action, the no-action alternative, and a proposed alternative action. The areas of potential impact analyzed are air quality, noise, hazardous materials, solid and hazardous wastes, biological resources, including threatened and endangered species, earth resources, cultural resources, land use, and socioeconomics. The environmental assessment describes the baseline conditions, environmental impacts (beneficial and adverse), potential mitigation measures.

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FINDING OF NO SIGNIFICANT IMPACT

Overview and Selected Alternative

After analyzing impacts of the proposed action, proposed alternative, and no action alternative, clearing trees along Lake Road and the North-South Road using methods described in the alternative action has been determined to be the preferred action. Trees will be cleared 18 feet from the edge of the road using an excavator-mounted masticating mower on the north side of Lake Road, on the east side of the North-South Road, and on the west side of the North-South Road to the north and south of Lake Sansing. Dead and damaged trees will be cleared and thinned at 10-foot intervals using chainsaws along the open channel on the south side of Lake Road and between the North-South Road and Lake Sansing.

Summary of Environmental Consequences of the Selected Alternative

- Air Quality: Short-term, insignificant impacts from equipment operation.
- Land Use: Positive impacts.
- Water Resources: No adverse impacts.
- Biological Resources: No adverse impacts. Positive impact by incorporating good urban forestry practices into site operations.
- Cultural and Historic Resources: No significant archaeological sites are likely to be present within the affected area.
- Solid Waste: No adverse impact. Positive impact by allowing Clear personnel to harvest downed wood.
- Socioeconomics: No adverse impacts.

Findings

On the basis of the above summary, a finding of no significant impact is made. An environmental assessment of this project has been completed. The assessment is attached and will remain on file at the Clear AFS Environmental, Health and Safety office at Clear AFS until it is eligible for archive.

I approve the Finding of No Significant Impact (FONSI) for this environmental assessment to clear trees along Lake Road and the North-South Road at Clear AFS as described in the proposed alternative.

ROBERT S. GRAVES, Lt. Col., USAF Robert S. Graves Date 10/27/05
Commander

Proposed action:	Clearing trees along approximately five miles of roads at Clear Air Force Station by mulching using an excavator mounted mower.
Type of Statement:	Final Environmental Assessment (EA)
Lead agency:	Air Force, 13th Space Warning Squadron
For further information:	ARCTEC Services/Environmental Health and Safety 200 A Street, Stop 500 Clear Air Station, AK 99704 (907) 585-6525 (Commercial) (DSN) 535-6525

Abstract:

The action being evaluated in this environmental assessment consists of clearing trees along approximately 5 miles of road (7500 feet) at Clear Air Force Station. Trees will be cleared along Lake Road and the North-South Road using a drum type flail mower. The mower is mounted on an excavator and chips the trees as it clears, keeping the debris in the work area. The mower can mulch trees up to 12 inches in diameter and 40 feet tall.

This environmental assessment evaluates the environmental impacts of the proposed action, the no-action alternative, and a proposed alternative action. The areas of potential impact analyzed are air quality, noise, hazardous materials, solid and hazardous wastes, biological resources, including threatened and endangered species, earth resources, cultural resources, land use, and socioeconomics. The environmental assessment describes the baseline conditions, environmental impacts (beneficial and adverse), potential mitigation measures.

1.0 Purpose and Need for Action

1.1 Purpose and Need

Due the lack of regular maintenance of the wood line along Lake Road and the North-South Road, the trees have grown too close to the roadside. The impeding wood line reduces the space available for snow removal during the winter months. Without enough space for snow removal, trees are often damaged leaving an unappealing landscape with scarred (Figure 1), uprooted (Figure 2), and dead trees (Figure 3). By removing the trees on each side of the road, a landscaped gradient between the road and the wood line will provide required space for snow removal operations without damaging trees to create a more aesthetic boundary with healthy trees. In addition to allowing access to recreation areas, both roads are used for perimeter patrols and provide defensible space against wildfire threatening B. 800, the operational radar facility. As trees become overgrown along roadways, visibility and access becomes limited creating safety and security concerns. Furthermore, when the canopy extends across the road as shown in Figure 4, the road no longer provides a firebreak. An approaching canopy fire will move across the road without being forced to burn down the tree to a defensible ground fire. Since the trees have grown up to the road, the required space is not available to effectively defend against an approaching wild fire. In accordance with the Wildland Fire Management Plan (draft 2005), Clear AFS will determine the need for fuel break maintenance of unmanaged, low maintenance roads and trails. The construction and maintenance of these firebreaks will provide protection of the grounds, especially buildings supporting the mission.

The Environmental Health Services office at Clear AS is charged with fulfilling National Environmental Policy Act (NEPA) requirements for projects on the installation that may affect the environment. This assessment evaluates several potential areas of impact including air quality, noise, hazardous materials, solid and hazardous wastes, water resources, biological resources, cultural resources, land use, and socioeconomics.

1.2 Decisions To Be Made

This EA will provide Clear AFS decision makers with the necessary information to understand the significance of environmental consequences from the proposed action in order to support the decision of whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). Furthermore, the document allows for a comparison of the proposed action with alternative actions and no action to determine if the proposed action minimizes environmental impacts as compared to the alternatives.

1.3 Scope of the Environmental Review

This EA addresses and evaluates the potential environmental impacts using an excavator-mounted mower to mulch trees along approximately 5 miles (7500 feet) of roads at Clear AFS. As a comparison, the review discusses environmental impacts and feasibility of alternative clearing methods and the alternative for no action. The proposed site currently contains early- to mid- successional forest. According to anecdotal information, trees along the roads have not

Figure 1. Photo showing a row of scarred trees, damaged during snow removal operations.

Figure 2. Photo showing uprooted trees, an example of damage caused from snow removal operations.

Figure 3. Photo showing trees that have been pushed by equipment during snow removal operations. With the stems severed at the base, the tree dies.

Figure 4. Photo showing decreased access and line of site as well as the connecting canopy on Lake Road.

been cleared for at least five years (Stalter, 2005). Core measurements age the trees along the roadway as old as 40 years. Resources that have a potential for impact were considered in more detail in order to determine whether additional analysis is required pursuant to 40 Code of Federal Regulations Part 1508.9. The effects on water resources, biological resources, air quality, and waste generation are analyzed in more detail for the proposed action and alternatives. Additionally, the effects on land use, roadways, and aesthetics were similarly evaluated.

Initial analysis indicated that because of scope and location, the project would not result in significant, short-or long-term impacts to socioeconomics, roadways, airspace, transportation, utilities (including water, wastewater, electricity, and natural gas), Installation Restoration Program sites, asbestos, pesticide usage, polychlorinated biphenyls (PCB's), radon, medical/biohazard wastes, ordnance, lead-based paint, soils and geology, noise, or cultural resources. The reasons for not addressing these resources are briefly discussed below:

- Socioeconomics: There are no significant employment or population expectations associated with the Proposed Action or alternative.
- Airspace: There are no aircraft operations associated with the Proposed Action and alternatives.
- Transportation: Impacts to air, rail, and land transportation associated with the Proposed Action and alternatives are not expected.
- Utilities: No utilities are required to support this project.
- Installation Restoration Program: There are no IRP sites associated with the proposed project site.
- Asbestos and lead based paint: Since there are no buildings or structures in the project area, impacts from asbestos or lead-based paint are not expected.
- Pesticide usage: Impacts from pesticide usage are not expected.
- PCBs: No transformers containing PCBs are associated with the proposed study site.
- Radon: There will be no structures associated with this study.
- Ordnance: Ordnance has not been stored, used, or disposed of within the proposed development site, and the Proposed Action and alternatives would not include the storage, use, or disposal of ordnance.
- Soils and Geology: No disturbance of the soils and geology will occur as a result of the proposed project. Stumps will remain for all trees removed leaving the root system undisturbed. No ground cover vegetation will be removed during the tree-clearing operation. Grubbing is not associated with the clearing project.
- Noise: There will be no noise associated with the proposed project other than temporary noise from the machinery during operation.
- Cultural Resources: After review of the project area, it has been determined that there are no cultural resources in the proposed study area.
- Environmental Justice. Because of the low level of the activity associated with the Proposed Action, impacts to low-income and minority populations are not expected and are not analyzed in this EA.

2.0 Description of the Alternatives Including the Proposed Action

2.1 Proposed Action

The proposed action is to remove trees 50 feet on each side of Lake Road and the North-South Road (approximately 5 miles or 7500 feet total) by mulching using an excavator-mounted mower (Attachment 1). Trees will be removed to the stump without removing the surrounding ground cover. The mulch will remain as ground cover to prevent erosion and to return organics and nutrients to the soil.

2.2 No action alternative

Under the no action alternative, trees along the Lake Road and the North-South Road will not be cleared. If no action is taken, the trees along these roads will continue to be damaged during snow clearing operations leaving an unaesthetic wood line. As the trees continue to get larger, root systems will begin to damage roads. Fallen or arcing trees can impede traffic for response and patrols as well as cause equipment and vehicle damage.

2.3 Proposed Alternative

One alternative to the proposed clearing method is to use the excavator mounted mower in all areas except along the open channel and Lake Sansing. This includes the north side of Lake Road, the east side of the North-South Road, and the west side of the North-South Road to the north and south of Lake Sansing (Figure 1). The excavator mounted mower will clear trees 18 feet from the edge of the established road instead of 50 feet, as discussed in the proposed action. Since the security fence with locking gate extends 18 feet from the edge of Lake Road, a clearing of the same distance will avoid inadvertently providing access around the fence. Hand clearing using chainsaws will be employed for removing damaged and dead trees and for thinning at 10-foot intervals along the roads adjacent to waterways. Downed trees from hand clearing operations will be deposited within the wood line across the road or made available for Clear personnel to take.

2.4 Comparison of Environmental Impacts

This section presents a comparative analysis of the proposed action, the no-action alternative, and the proposed alternative. A detailed discussion of the potential effects for each option is presented in Chapter 3.0, Affected Environment and Environmental Consequences.

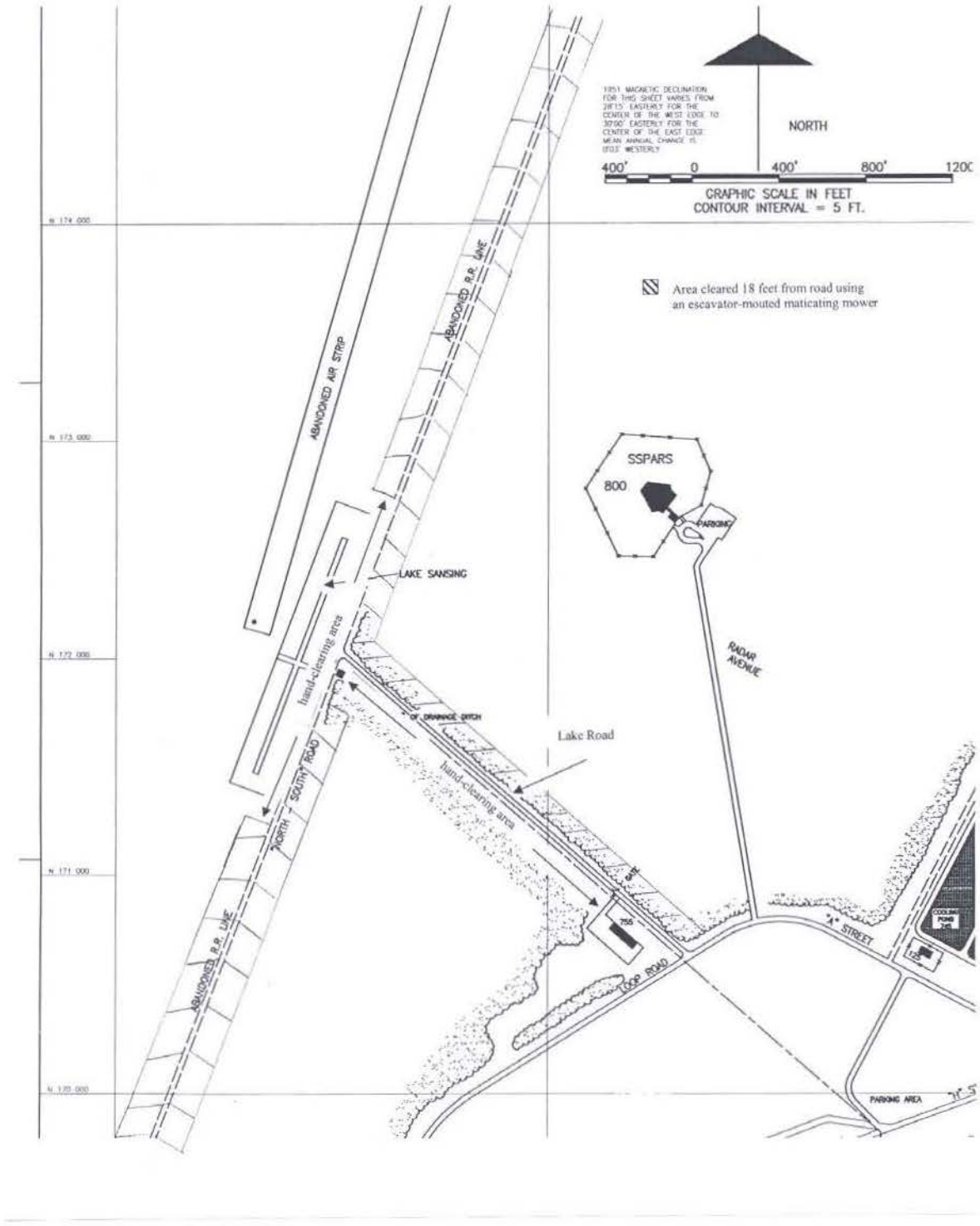

Figure 5. Schematic detailing the proposed alternative for the tree clearing action.

Proposed Alternative: No significant, long-term environmental impacts are expected from the clearing project. Mitigation actions, however, will need to be planned and performed in order to meet USCOE and AFSPC wetland protection regulations. For areas cleared along the open channel and Lake Sansing, chips will be deposited into the waterways. Since both waters have been designated as wetlands by the USCOE (Attachment 1), coverage under the 402 permit program is required before depositing fill into the wetland areas. For planning purposes, it is important to note that the permit process includes fill volume calculations, discussion of practical alternatives, public notice period, and reporting to AFSPC through 21 CES/CEV. By following the mitigation activities prescribed by the ACOE 402 permit and AFSPC requirements, no significant, long-term impacts to water or biological resources are anticipated.

By clearing the trees along the roads, there will be a positive effect on land use management. With additional space along the roads, trees will not be damaged by snow removal operations, creating an unsightly wood line. Removing the trees prevents road damage from roots and avoids possible vehicle damage from damaged and arcing trees.

No-Action Alternative: Under the No-Action Alternative, no clearing or land disturbance will occur. No significant impacts from the No-Action Alternative are anticipated to hazardous materials/waste management, physical resources, air quality, water quality, biological resources, cultural resources, or environmental justice. However, by not clearing these areas as proposed, trees will continue to be damaged along roadways. The wood line will remain lined with damaged trees with a long-term potential for road and vehicle damage from continued tree growth.

Proposed Alternative: Since the open channel and Lake Sansing have been designated as a wetland by the USCOE, depositing chips into the water constitutes filling a wetland (Attachment 1). For this reason, the proposed alternative calls for hand clearing trees along the roads adjacent to Lake Sansing and the open channel. Dead and damaged trees will be removed and trees will be thinned as necessary to provide a more aesthetically pleasing wood line and reducing the fuels load along the road. By using chainsaws, chips from the clearing operation will not be deposited into the lake. Before filling a wetland, coverage under the 402 permit from the USCOE must be obtained, and plans must be approved by AFSPC. Additionally, mitigation activities prescribed by the permit must be followed. The excavator-mounted masticating mower will be used for clearing operations in all other areas discussed in the proposed action: along north side of Lake Road, on the east side of the North-South Road, and on the west side of the North-South Road beyond Lake Sansing to the north and south. Instead of clearing the trees 50 feet from the edge of the road, the alternative action proposes a clearing of 18 feet from the edge of the road. The security fence and locking gate on Lake Road extends 18 feet from the road in both directions. The gate is designed to prevent access to the base as necessary for security reasons. Clearing 18 feet will provide a dramatic increase in open space along the roads for snow removal operations, line of sight, and a firebreak, while maintaining the established security requirements.

The proposed alternative has the same positive effects on land management and roadways as does the proposed action. The roadways will be opened and the health and aesthetics of the wood line will be greatly improved. Clearing the trees follows Alaska urban forestry standards

and the Clear AFS Wildland Fire Management Plan (BLM, draft 2005) by creating a defensible space and providing easier access to respond to a wild fire. From a security standpoint, removing and thinning trees on the sides of these roads will improve the line of sight for patrols and response.

3.0 Affected Environment and Potential Consequences

This section evaluates the potential effects and consequences of both construction and operations and briefly discusses ways of minimizing or eliminating the effects.

3.1 Air Quality

Proposed Action. Additional air emissions from equipment operation represent an insignificant, short-term impact on the environment. The emissions will not change the facility's Title V Air Permit and will not affect the current attainment status.

No-Action Alternative. There are no effects to air quality from the no-action alternative.

Proposed Alternative. Air emissions from equipment and chainsaws as proposed in the alternative action will increase slightly for the time of the project. As with the proposed action, the emissions will not change the facility's Title V Air Permit and will not affect the current attainment status. The emissions will have an insignificant and short-term impact on the environment.

3.2 Biological Resources

Proposed Action. Removing trees along the roads represents good urban forestry practices. It creates a well managed forest edge away from the road to prevent adverse effects of wildfire; provides clear passage and a safe sight distance for vehicle and equipment traffic; and creates an aesthetic forest border. By creating space for snow removal, trees along the road will not be damaged and killed during winter operations. There are no threatened or endangered species in the project area (Biodiversity Study). However, migratory birds such as cranes, lesser Canadian geese, various shorebirds, and gulls inhabit these waters and surrounding fields during the summer. Since any fill from the clearing operations described in the proposed action would be short-term, no significant effect to resident or seasonal wildlife is expected.

No-Action Alternative. There are no adverse effects to biological resources for the no-action alternative. However, good urban forestry practices help to maintain a healthy, productive forest edge.

Proposed Alternative. There are no adverse effects to biological resources from the proposed action. Managing the trees using good urban forestry guidelines as described with the proposed action creates a healthy vegetative gradient between developed and undeveloped areas. There are no threatened or endangered species in the project area (Biodiversity Study).

3.3 Water Resources

Proposed Action. Using the excavator mounted mower to chip the trees along the open channel and Lake Sansing as proposed presents the possibility of temporarily impacting these water ways. If this action is chosen, proper planning must be taken to obtain a USCOE 402 Permit for filling operations in a designated wetland. Additionally, all plans and proposals for such actions must be presented to AFSPC for final approval. Once a 402 Permit is obtained, mitigation requirements defined in the permit must be met. All of these requirements minimize possible damage to the affected water bodies, but require additional planning and management to meet the requirements. Depositing the chipped material over the cleared area will provide a natural erosion inhibitor as well as returning organics and nutrients to the soil.

No-Action Alternative. The no-action alternative will not affect water resources in a positive or negative manner.

Proposed Alternative. The proposed alternative will have no negative effects on Clear's water resources. Clearing the dead trees along and in the open channel will allow for a more laminar flow.

3.4 Waste Generation

Proposed Action. No hazardous waste or solid waste will be generated from this study. All debris generated from the clearing operation will be chipped in place and left as cover material, avoiding waste disposal.

No-Action Alternative. Wastes are currently not generated in the project area.

Proposed Alternative. Wood chips will be deposited in place in those areas cleared using the masticating mower. Trees removed using the chainsaw will be made available to Clear AFS personnel. For other road maintenance operations, this has been successful. With a high level of interest from Clear personnel, the wood has been gathered quickly with little clean-up required.

3.4 Land Use, Roadways, and Aesthetics

Proposed Action. Clearing the trees away from the edge of the roads has positive effects on land use and roadways. Regular maintenance along roadways provides a safe line of sight for driving and security patrols. Furthermore, cutting trees back from the side of the road creates a firebreak. The firebreak provides a defensible line across which a moving line of fire cannot pass. This allows firefighters to defend against forward fire movement. The break in a fuel source forces a canopy fire towards the ground, slowing the advance. Since the canopy has grown over the road, the road does no provide an adequate firebreak. Moving the tree line away from the edge of the road provides the break in the canopy needed to create defensible space. Over time, encroaching vegetation can damage the structure of the roadbed through extending root systems and seed deposition. Finally, a manicured tree line set back from the edge of the road provides an

aesthetic border and maintains a healthy forest edge, since the trees are not damaged during snow removal operations.

No-Action Alternative: The land use and roadway condition with overgrown and consequently damaged vegetation will continue to worsen over time with the current maintenance plan.

Proposed Alternative. The proposed alternative has the same positive outcomes of the proposed action. The clearing scheme proposed in the proposed action provides adequate clearing for a firebreak. Additionally, the proposed alternative increases the effectiveness of the firebreak by leaving a shaded, earthen firebreak. Shaded firebreaks have been found to hold more moisture in the ground cover and soil to be more effective than a firebreak without shade (Theisen, 2003). Based on observed roadside clearings at Clear AFS, clearing 18 feet instead of 50 feet from the side of the road will maintain a shaded ground cover along the road.

4.0 Cumulative Effects

This section evaluates cumulative effects within the scope of this project and when considering effects from other projects planned for FY06 at Clear AFS. Those areas noted as having possible environmental effects include air quality, biological resources, water resources (wetlands), wastes, and land use and roadways. Since all environmental effects are short-term and insignificant, cumulative effects from the project are likewise short-term and insignificant. Other construction projects planned for FY06 include installing the communication loop and replacing the steam lines and wooden enclosure in the Utilidor between the Tech Site and the Composite Area. Since both of these projects take place in established utility easements, the environmental effects are dissimilar from those of the clearing project discussed in this environmental assessment.

5.0 Agencies and Individuals Consulted

Forrest McDaniel, US Army Corps of Engineers, Fairbanks Regulatory Office
Tami DeFries, Bureau of Land Management – Alaska Fire Service
Desmond Isaacson, Operations and Maintenance Supervisor, ARCTEC/CE
Jim Stalter, Mechanical Engineer, ARCTEC/CE
Mark Malin, Owner of Proact Alaska and operator of the Brontosaurus masticating mower

6.0 References

Bureau of Land Management. *Draft Wildland Fire Management Plan – Clear Air Force Station Alaska*. 2005.

Theisen, S. *An Analysis of Shaded Fuel Breaks on Fire Behavior*. April 2003. Bureau of Land Management Alaska Fire Service.

7.0 Author

Heidi Young, Environmental Coordinator, ARCTEC/EHS, Clear AFS, September 2005

Attachment 1

From: McDaniel, Forrest E POA [Forrest.E.McDaniel@poa02.usace.army.mil]
Sent: Wednesday, August 03, 2005 1:56 PM
To: Young Heidi J Contr 13 SWS/EHS
Subject: RE: Clear AFS tree clearing project along open channel and Lake Sansing

Heidi,
I have reviewed some additional information I found in our office, and have come to this determination. The power plant cooling pond, the radar cooling water reject ditch and Lake Sansing were all man-made water bodies. We do not regulate the power plant cooling pond or the cooling water reject ditch. We do regulate Lake Sansing as navigable in-fact water of the United States. Why? Lake Sansing is a 12-acre abandoned gravel pit that has naturally restored shoreline and bank vegetation. It has groundwater infiltration and supports recreational boating. Clearing of brush and trees adjacent to the ditch and lake will not require a Department of the Army permit. Placement of fill material into the lake will require a DA permit. I hope this will help with the environmental document.

Forrest